



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-2983; Directorate Identifier 2015-NE-20-AD; Amendment 39-18383; AD 2016-02-04]

RIN 2120-AA64

Airworthiness Directives; CFM International S.A. Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain CFM International S.A. (CFM) CFM56-5B series turbofan engines. This AD was prompted by a corrected lifing analysis by the engine manufacturer that shows the need to identify an initial and repetitive inspection threshold for certain part number (P/N) turbine rear frames (TRFs). This AD requires initial and repetitive inspections of certain P/N TRFs on the low-pressure turbine (LPT) frame assembly. We are issuing this AD to prevent failure of the TRF on the LPT frame assembly, which could lead to engine separation, damage to the engine, and damage to the airplane.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this AD, contact CFM International Inc., Aviation Operations Center, 1 Neumann Way, M/D Room 285, Cincinnati, OH 45125; phone: 877-432-3272; fax: 877-432-3329; email: aviation.fleetsupport@ge.com.

You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-2983.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-2983; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Kyle Gustafson, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7183; fax: 781-238-7199; email: kyle.gustafson@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain CFM CFM56-5B series turbofan engines. The NPRM published in the Federal Register on October 2, 2015 (80 FR 59672). The NPRM was prompted by a corrected lifing analysis by the engine manufacturer that shows the need to identify an initial and repetitive inspection threshold for certain P/N TRFs. The NPRM proposed to require initial and repetitive inspections of certain P/N TRFs on the

LPT frame assembly. We are issuing this AD to correct the unsafe condition on these products.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (80 FR 59672, October 2, 2015) or on the determination of the cost to the public.

Clarification to the Repetitive Inspection Requirements

We have revised the Compliance, paragraph (e) of this AD, to clarify the repetitive inspection requirements for when the initial inspection is done prior to the initial inspection threshold.

Conclusion

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD as proposed except for the changes described above. We have determined that the changes described above are minor changes, as they:

- Are consistent with the intent that was proposed in the NPRM (80 FR 59672, October 2, 2015) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (80 FR 59672, October 2, 2015).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information under 1 CFR part 51

We reviewed CFM Service Bulletin (SB) No. CFM56-5B S/B 72-0850, dated December 19, 2012, which describes procedures for inspecting the TRF. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section of this final rule.

Other Related Service Information

We also reviewed CFM SB No. CFM56-5B S/B 72-0308. Operators subject to this AD are required to follow different initial and repetitive inspection intervals depending on whether CFM SB No. CFM56-5B S/B 72-0308 has been applied.

Costs of Compliance

We estimate that this AD affects about 94 engines installed on airplanes of U.S. registry. We also estimate that it will take about 3 hours per engine to do the inspection. The average labor rate is \$85 per hour. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$23,970.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for [parthttp://www.continentalsanantonio.com](http://www.continentalsanantonio.com) 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2016-02-04 **CFM International S.A.:** Amendment 39-18383; Docket No. FAA-2015-2893; Directorate Identifier 2015-NE-20-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to CFM International S.A. (CFM) CFM56-5B engines with turbine rear frame (TRF), part number (P/N) 338-102-907-0 or P/N 338-102-908-0, installed.

(d) Unsafe Condition

This AD was prompted by a corrected lifing analysis by the engine manufacturer that shows the need for an initial and repetitive inspection of certain P/N TRFs on the low-pressure turbine (LPT) frame assembly. We are issuing this AD to prevent failure of the TRF on the LPT frame assembly, which could lead to engine separation, damage to the engine, and damage to the airplane.

(e) Compliance

Comply with this AD within the compliance times specified, unless already done.

(1) For Engines that have Applied CFM Service Bulletin (SB) No. CFM56-5B S/B 72-0308:

(i) Prior to accumulating 25,000 cycles since new (CSN) on the TRF of the LPT frame assembly or within 150 cycles after the effective date of this AD, whichever occurs later, perform an initial eddy current inspection (ECI) or a fluorescent penetrant inspection (FPI) of the TRF mount struts on the LPT assembly.

(ii) For engines with unknown CSN on the TRF of the LPT frame assembly, perform the initial inspection required by this AD within 150 cycles-in-service (CIS) after the effective date of this AD.

(iii) Use paragraph 3.B. in the Accomplishment Instructions of CFM SB No. CFM56-5B S/B 72-0850, dated December 19, 2012, to do the ECI and paragraph 3.C. in the Accomplishment Instructions of CFM SB No. CFM56-5B S/B 72-0850, to do the

FPI. Do not include TRF mount strut crack lengths towards the cumulative crack length after the cracks are repaired.

(iv) If no cracks are found on any of the three TRF mount struts, repeat the inspection within 1,670 cycles since last inspection (CSLI) or prior to accumulating 25,000 CSN on the TRF of the LPT assembly, whichever occurs later.

(v) If the cumulative length of all cracks found at any TRF mount strut location is less than 0.20 inches, repeat the inspection within 1,670 cycles CSLI.

(vi) If the cumulative length of cracks found at any TRF mount strut location is greater than or equal to 0.20 inches, but less than 0.25 inches, repeat the inspection within 280 CSLI.

(vii) If the cumulative length of cracks found at any TRF mount strut location is 0.25 inches or greater, replace the TRF with a part eligible for installation before further flight.

(2) For Engines that have Not Applied CFM SB No. CFM56-5B S/B 72-0308:

(i) Prior to accumulating 32,000 CSN on the TRF of the LPT frame assembly or within 150 cycles after the effective date of this AD, whichever occurs later, perform an initial ECI or FPI of the TRF mount struts on the LPT frame assembly.

(ii) For engines with unknown CSN on the TRF of the LPT frame assembly, perform the initial inspection required by this AD within 150 CIS after the effective date of this AD.

(iii) Use paragraph 3.B. in the Accomplishment Instructions of CFM SB No. CFM56-5B S/B 72-0850, dated December 19, 2012, to do the ECI and paragraph 3.C. in the Accomplishment Instructions of CFM SB No. CFM56-5B S/B 72-0850, to do the FPI. Do not include TRF mount strut crack lengths towards the cumulative crack length after the cracks are repaired.

(iv) If no cracks are found on any of the three TRF mount struts, repeat the inspection within 2,500 CSLI or prior to accumulating 32,000 CSN on the TRF of the LPT assembly, whichever occurs later.

(v) If the cumulative length of cracks found at any TRF mount strut location is less than 0.20 inches, repeat the inspection within 2,500 CSLI.

(vi) If the cumulative length of cracks found at any TRF mount strut location is greater than or equal to 0.20 inches and less than 0.25 inches, repeat the inspection within 370 CSLI.

(vii) If the cumulative length of cracks found at any TRF mount strut location is 0.25 inches or greater, replace the TRF with a part eligible for installation before further flight.

(f) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(g) Related Information

(1) For more information about this AD, contact Kyle Gustafson, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7183; fax: 781-238-7199; email: kyle.gustafson@faa.gov.

(2) CFM SB No. CFM56-5B S/B 72-0308, which is not incorporated by reference in this AD, can be obtained from CFM, using the contact information in paragraph (h)(4) of this AD.

(h) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(i) CFM International S. A. (CFM) Service Bulletin No. CFM56-5B S/B 72-0850, dated December 19, 2012.

(ii) Reserved.

(4) For CFM service information identified in this AD, contact CFM International Inc., Aviation Operations Center, 1 Neumann Way, M/D Room 285, Cincinnati, OH 45125; phone: 877-432-3272; fax: 877-432-3329; email: aviation.fleetsupport@ge.com.

(5) You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

(6) You may view this service information at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on January 14, 2016.

Gaetano Sciortino,
Acting Directorate Manager, Engine & Propeller Directorate,
Aircraft Certification Service.
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